Lecture 20 Quiz

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1. **Define local history in the context of branches.**

   Local history is a record of how a particular branch previously branched. In contrast, global history is not just the previous branch, but also whatever branches happened before. Global history incorporates the history of branches around the particular branch you're attempting to predict at the moment.

2. **Define tournament predictor.**

   The tournament predictor uses a meta predictor to decide between a local predictor and a global predictor and it uses that meta predictor to keep track of which predictor is predicting better.

3. **Define precise exceptions.**

   Precise exception is being able to precisely associate an exception with the correct instruction, so knowing exactly which instruction was the offending instruction.

4. **Write down the steps that a MIPS microprocessor takes when an exception is triggered.**

   After precisely associating an exception with an instruction, the MIPS microprocessor will draw a line in the sand and allow instructions before that offending instruction to commit state to the microprocessor (write to the memory) while all instructions, including the offending instruction and all instructions after, are actually flushed and prevented from writing any state. It then stores the program counter value of this exception in the EPC and stores the cause code of the particular exception in the cause register.